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**An Exploratory Analysis of
Canada's International Transactions in
Service Commodities**

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Foreword

The expansion of the service sector, together with innovations in both technology and business organization, have placed an increasing number of service industries in a tradable, or potentially tradable, environment. The growing significance of international-services transactions was widely recognized with the inclusion of services in the Uruguay Round of Multilateral Trade Negotiations in 1986. However, many of the issues associated with trade in services have generally not been well understood.

The Economic Council commissioned this study by Professor McRae to examine the Canadian implications of the growing tradability of services. The paper addresses some of the conceptual and measurement problems associated with this issue; it analyses trends in Canada's trade in services, with a particular focus on the increasingly important business-services subsector; and it estimates the amount of employment which is directly dependent on service-sector exports. Finally, it addresses the significant domestic policy implications of a global environment in which services occupy a growing share of world trade.

This study was undertaken as part of the Economic Council project on employment and the service economy. From this analysis, we released *Good Jobs, Bad Jobs*, a Council Statement (1990) and a research report, *Employment in the Service Economy* (1991). Professor McRae is with the School of Public Administration at the University of Victoria.

Judith Maxwell
Chairman

READER'S NOTE

The reader should note that various conventional symbols similar to those used by Statistics Canada have been used in the tables:

- .. figures not available
- ... figures not appropriate or not applicable
- nil or zero
- x data confidential, to meet the secrecy requirements of the *Statistics Act*.

Details may not add up to totals because of rounding.

Introduction: The Nonindustrial Revolution

As the relative shift away from manufacturing and towards service industries becomes evermore obvious in terms of employment – and to a slightly lesser extent in terms of output – it is becoming commonplace for knowledgeable observers to debate the advantages and disadvantages of a more service-oriented economy. Those who argue that the transition may be painful, but certainly not catastrophic, dub this the Second (Nonindustrial) Revolution and promote the notion of a new “information” economy. For example, see Porat [1977]. The First Industrial Revolution shifted the economic base of western economies from agriculture towards industry, and the Second Revolution is simply the next phase of the evolution towards a service-dominated economy. Others argue that service industries are inherently unproductive and can contribute nothing to the process of economic growth. The analogy used by these observers involves a hypothetical nation of doctors and lawyers, one group providing heart transplants and the other suing for malpractice!

Both sides in the debate at least agree on the evidence presented. Census information is used by Coffey and McRae [1989] to show that the service sector in Canada is both large and rapidly growing. Measured in terms of employment in 1981, the service sector is over twice as large (67.7 per cent) as the primary, construction, and manufacturing sectors (32.3 per cent). In absolute numbers, there were 3.28 million workers employed in the goods-producing (primary, manufacturing, and construction) industries, and 6.88 million employed in service-producing industries in 1981. In fact, there are more people employed in the retail-trade and consumer-services (restaurants, hotels, dry cleaning, etc.) sectors than in all manufacturing industries. However, more than the absolute size of service-sector employment, it is the rapid growth which has served to focus professional analysis and public opinion on the service sector. In Canada, between the census years 1971 and 1981, employment in goods-producing industries increased by 0.75 million, an increase of 29.6 per cent. Equivalent figures for service-sector employment show a growth rate of 59 per cent, representing 2.56 million new jobs. Further, census data reveal that this large growth in service-sector employment was very broad-based. When service-industry employment is divided into 10 subcategories,¹ Coffey and McRae [1989] show that each individual service subsector produced a higher growth rate than the goods sector. For example, rates of employment increase over the period 1971-81 were particularly high for producer services (141.2 per cent) and the FIRE sector (79.4 per cent). However, it must be stressed that in terms of the absolute number of new jobs created between 1971-81, it is largely the untraded service categories such as retail trade, consumer services, and nonprofit sectors that dominate.

The international trade dimensions of this move towards increasing proportions of service-sector employment and output are currently not well

understood in conceptual, empirical, or policy terms. Most formal theoretical models of trade and investment simply assume the issue of service-sector trade away by specifying services to be in the nontraded sector of the economy due to a variety of physical, regulatory, or technical characteristics. As such, service industry output, price, and employment levels are determined solely within the confines of the national economy in response to terms-of-trade shocks originating in the tradable sectors. The demand for nontraded service outputs such as personal services, retail trade, insurance, and real estate are thought to be entirely local in nature and supported by income generated in the exporting sectors. Empirically, international transactions involving service commodities are particularly difficult to measure and record in comparison to transactions on merchandise account. The service sector covers such a heterogeneous group of activities, many of which enter into international commerce through channels that escape the existing international data collection process. Finally, in terms of policy significance, many countries – following the early lead of the United States – have focused attention on the contribution of service-sector trade to overall export performance. Each of the major trading nations has individual reasons for investigating the level and growth of its service-sector trade. For countries such as Australia and Canada, there is a strong belief that future improvements in the current-account balance must come from exports of service commodities and manufactured goods, as opportunities for the export of primary products will be more limited in the future than has been the case in the past.

The residual role assigned to service industries in international trade models is currently being questioned. With significant technological progress and innovations in the forms of business organization, the boundary surrounding purely nontraded service industries has contracted considerably, leaving an increasing number of service sectors in a tradable, or potentially tradable, environment. Technological advances in computer-communications technologies, and/or business organizational changes such as the spread of transnational corporations and the rise of franchising and licensing arrangements, have made many nontraded service industries global in terms of potential markets. For many business services such as accounting, advertising, information storage and retrieval, engineering, and financial services such as banking, investment, and insurance, it is now possible for suppliers in one market to serve clients in another, thus breaking the need for buyers and sellers to locate in the same geographical area.

The purposes of this monograph are to:

- provide a broad statistical picture of Canada's trade in services in terms of magnitude, direction, composition, and trends;
- focus on trade in business services and provide detailed statistical information on growth rates, direction, and the mechanisms by which services enter into international commerce;

- estimate the number of Canadian service-sector jobs that depend directly on service exports;
- contribute to the development of Canada's policy with respect to international service transactions.

In order to accomplish these tasks, the next section develops the conceptual and definitional issues that have often hindered both theoretical and empirical progress on this topic. The following section gives a complete historical overview of Canada's export and import of service commodities from 1961 to 1987. The section entitled "A Focus on Business Services Trade" continues the empirical analysis by focusing on the business-services component of overall services trade. The section that follows estimates the approximate number of service industry jobs that are directly dependent on exports, and the following section provides a preliminary empirical analysis of the export orientation of service-producing firms and information on the vehicle by which they enter into foreign markets. The final section concludes the monograph with an exploratory discussion concerning the policy significance of the findings.

Conceptual and Definitional Issues

Rachel McCulloch [1988, 369] makes the important point that the ultimate international policy goals of most nations regarding the service industries have been hampered as much by the lack of analytical guidance regarding what to measure as by the lack of international service-sector statistics. In formal models of international trade and investment, service industries have remained a conceptual "orphan" based on the assumption that they are inherently nontraded due to physical, technological, or regulatory reasons. Several layers of conceptual difficulty are involved. The first involves the seemingly straightforward issue of defining which industries should be included in a definition of the service sector, and whether or not the grouping produced is useful for empirical work or merely a label conveniently applied to a statistical residual. The second layer of conceptual difficulty involves the methods or "vehicles" by which service outputs may be traded across national boundaries. The central issue here is the confusion that often results between trade in service outputs and foreign-source income received by the head office of a multinational service corporation due to the local sales of foreign affiliates. The final conceptual issue of importance to this monograph concerns the issue of employment opportunities in domestic service industries which are subject to international competition. Identifying, and eventually measuring, the variables that should be included in a factor-demand equation for Canadian service industry labour is conceptually much more difficult than the equivalent exercise for the goods-producing sector of the economy.

What Are the Service Industries?

The difficult conceptual issue of defining the economic boundary that separates primary, manufacturing, and service industries generally serves as a beginning point for both theorists, who wish to understand the importance of the service sector in the complex process of economic growth and employment creation, and empiricists, who wish to measure it. Shifting definitions by various authors of exactly which industries should be allocated to each of the three major categories have often produced general confusion regarding the empirical importance of the topic and a variety of sometimes conflicting policy suggestions.

Most citizens, if asked, would have little difficulty distinguishing between a manufactured output, such as automobile production, and a service output, such as retailing or banking, but economists and statisticians require a precise definition of the economic characteristics that can be used to separate services from goods. Unfortunately, Adam Smith, whose writings have proved insightful on so many topics in economics, laid the foundations for 250 years of conceptual neglect by observing that service outputs are nondurable in nature and hence, he argued, could not contribute to the process of capital accumulation necessary for economic growth.

Numerous modern authors² have attempted to identify the important dimensions along which a suitable definition can be built but, unfortunately, the exercise has degenerated into a rather abstract intellectual game, as subsequent authors find activities that are commonly agreed to be services, but do not fit into the proposed taxonomy.³ For this manuscript, the service sector is defined as any productive activity not included in the primary, construction, or manufacturing sectors.

How Are Service Outputs Traded?

International trade in either goods or services involves transactions between the residents of one political entity and non-residents. For the merchandise account of the balance of payments, the mechanism by which foreign goods enter into domestic commerce is perfectly straightforward – they are simply transported across a national boundary (e.g., medical equipment is shipped from San Francisco to Vancouver). However, for the nonmerchandise account, the mode through which service activities are exported is much more diverse. Four possible mechanisms may be identified.⁴

1 Some service outputs (e.g., credit rating, or foreign exchange, information) may be directly exported or imported across national borders as long as they can gain access to national communications systems such as telephone,

post, or computer networks. This type of service output is conceptually no different from the outputs that make up the merchandise account of the balance of payments.

2 For service activities such as engineering, management consulting, advertising, and repair work, where the expertise or knowledge being supplied is embodied in an employee and physical proximity to the buyer is essential, service outputs may be traded across national borders only by the temporary movement of skilled personnel.

3 A third class of service activities requires the movement, not of service providers as above, but of service demanders. The most important example of this type of "within-border" international trade is obviously tourism, but less well-known examples such as port services purchased by foreign ships while in Canadian waters also qualify as Canadian service exports made possible by the movement of demanders.

4 For other service activities, the vehicle by which they enter into international commerce is not directly, as for the previous three vehicles, but indirectly in a form embodied in some physical output. For example, computer-operating software – a service output – is increasingly dominating hardware in terms of total system value, but can only be sold as a package embodied in the physical export.

In addition to the four ways in which service activities may enter into international commerce, it is important to categorize international trade in services according to whether or not they are "arm's-length" transactions between non-affiliated firms, or interestablishment exchanges done within the umbrella of a multinational enterprise. Many service activities such as banking, insurance, motor and air transport require a direct foreign investment to create and maintain foreign branches or subsidiaries before business can be transacted in the foreign country. It is important to note that it is not the foreign direct investment itself, the domestic sales by the foreign affiliate, or the returned dividends and repatriation of profits that arise from the foreign direct investment, which constitutes an international exchange of services. The foreign exchange flows related to foreign investment are correctly regarded as factor income generated from the ownership of foreign assets and should not be counted as part of the service trade balance.

However, the investment activity implicit in the establishment of a network of foreign branches or subsidiaries does give rise to service trade opportunities through the interestablishment sales of head-office services such as advertising, accounting, data processing, software, and legal services. This type of service-sector trade, classified as "establishment" trade, may take place in any type of multi-establishment organization (e.g., manufacturing, service,

or primary resource firms) and is classified as international trade in services as long as the head office and the branch or affiliate firms are located on different sides of a national border.

The measurement problems inherent in disentangling the foreign affiliate sales of service-sector firms from direct exports have caused a good deal of confusion and misestimation on the size and growth of world service trade. The problem is particularly acute in the banking and financial services industry. France St. Hilaire and John Whalley [1986] argue that early estimates of world trade in banking services seriously overestimated the volume of activity by confusing trade and investment decisions. They argue that the main service output produced by banks is financial intermediation between depositors and borrowers (i.e., both groups require the service provided by banks to economize on the transactions costs of locating one another and negotiating mutually advantageous transactions).

St. Hilaire and Whalley re-estimate the value of Canadian, U.S., and U.K. exports in banking services and show that the true size of banking-service exports is approximately one fifth the size of total reported foreign-source income, which includes both actual trade activity and investment income earned for the parent bank on non-resident transactions. Obviously, the importance of revenue earned due to foreign direct investment in comparison to receipts earned on service-sector exports varies for each component of the service sector, depending upon the nature of the service output being produced and the mechanism by which it enters into international commerce.⁵

In the empirical analysis that follows, attention is focused on sets of services, which Statistics Canada defines as actual trade in service activities, and excludes foreign-exchange flows defined by Statistics Canada to be due to foreign investment or factor incomes.

The Employment Consequences of Service-Sector Trade

As noted earlier, one of the primary outputs of this monograph is to estimate the approximate proportion of Canadian service-sector employment that is trade sensitive in the sense that employment levels depend directly on service exports. In order to adequately address this empirical issue, it has proved necessary to take a rather long detour through some of the conceptual and definitional issues that have hampered conceptual progress and constrained empirical researchers.

The domestic employment consequences of the international exchange of services depend on the mechanism by which they enter into international

commerce. Services that are either traded directly through an international communications network, exchanged through the temporary movement of either demanders or suppliers, embodied in some physical good which is traded, or exchanged as an intercorporate movement of head-office services have domestic employment consequences exactly the same as those created by trade on the merchandise account of the balance of payments. If services enter into international commerce through foreign direct investment – this is an investment not a trade activity – then the domestic employment consequences are the same as for any offshore investment (i.e., employment levels in the host country are increased).

Some Baseline Data on Canadian Service-Sector Trade

Definitions

Statistics on Canada's international trade in services have traditionally provided statisticians with extremely complex conceptual and measurement problems. Recently, Statistics Canada, in response to the requests of many users and the rising importance of service-sector issues in the Uruguay Round of GATT negotiations, has engaged in a series of developmental projects aimed at improving the quality and coverage of these data. The first results of this work were summarized in the special publication *Canada's International Trade in Services* [cat. 67-510] and since then in the annual publication, *Canada's International Transactions in Services* [cat. 67-203]. Most importantly, these publications, and subsequent issues of the regular *Quarterly Estimates of the Canadian Balance of International Payments* [cat. 67-001], separate investment income earned by Canadian residents on assets held outside the country and payments made to foreigners for their ownership of Canadian assets, from the category of service transactions where it historically has been grouped. As a result, the services categories of the balance of payments now contain five broad categories: travel, freight and shipping, business services, government transactions, and "other services." All of these traded service categories are pure "free standing" service commodities that enter into international commerce either through an international communications network or by the temporary movement of demanders or suppliers. No attempt is made to measure the volume of service exports that are exported or imported indirectly in a form embodied in some physical output. Appendix A contains a detailed description of the five traded service sectors.

Canada's International Trade in Services

Appendix Table A-1 displays aggregated international receipts and payments for both services and merchandise trade since 1961. In current dollar

terms, service exports increased more than 14-fold from \$1.28 million in 1961 to \$18.1 million in 1987. The increase was essentially a smooth progression except for 1967, when a significant increase took place, and between 1981 and 1982, when a less significant drop occurred. During this same period, merchandise exports grew by more than 21-fold from \$5.86 million in 1961 to \$126 million in 1987. The increase in this series was continuously positive except for a drop between 1981 and 1982 also noted for service-sector exports.

Table A-1 also presents equivalent information for service-sector imports into Canada, again in terms of current dollar value. Service imports have risen nearly continuously between 1961 and 1987, from \$1.73 million to \$25.1 million, a rise of nearly 14-fold. Again, the only exception to this rising pattern of service-sector imports occurred between 1981 and 1982, when the value of service imports fell slightly. During this same period, merchandise imports rose over 20-fold, from \$5.72 million to \$115 million, with a significant drop occurring between 1981 and 1982.

Finally, Table A-1 presents the balance on service-sector account. With the exception of 1967, during which time Canadian service exports took a significant increase, Canada has run a continuous and rising deficit, growing from \$0.456 million in 1961 to \$7.1 million in 1987. This service-sector deficit significantly offsets the \$10.3 million surplus which was generated by merchandise trade in 1987.

Chart 1 uses the information contained in Table A-1 to visually display the ratio of service-sector to merchandise-account exports. This series displays a downward trend from the 21-per-cent range achieved in the early years of the 1960s to the 14-per-cent range in 1986 and 1987. While there have been some short-term oscillations around the trend line – and a significant spike⁶ in 1967 – these data show that the declining importance of service in comparison to merchandise exports proceeded more or less smoothly from 1961 to 1987.

The ratio of service to merchandise imports is constructed from Table A-1 and displayed as Chart 2. This series also displays a downward trend over time from the range of 28-30 per cent achieved in the early 1960s to the 20-22 per cent range achieved during most of the 1980s. However, unlike the relative service-export series, the service-import data display a much more volatile pattern of short-term oscillations around the downward trend.

Table A-2 disaggregates the service export and import totals into the five subcategories discussed earlier: travel, freight and shipping, business services, government transactions, and "other services." For service exports, the percentage contribution of travel has declined slightly from the range of 35-40 per cent during 1961-72 to the range of 30-35 per cent for the remainder

Chart 1

Service exports as a percentage of merchandise exports,
Canada, 1961-87

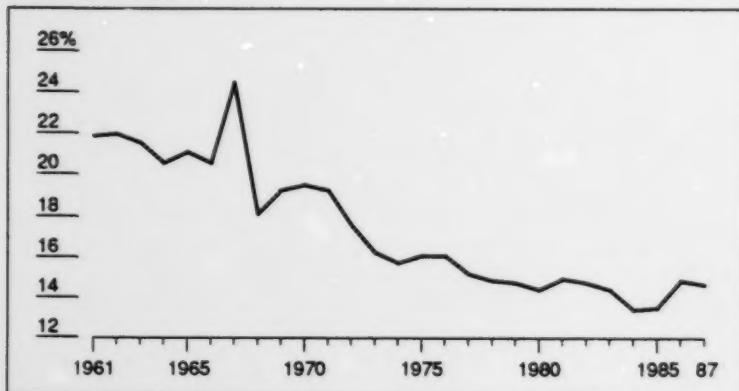
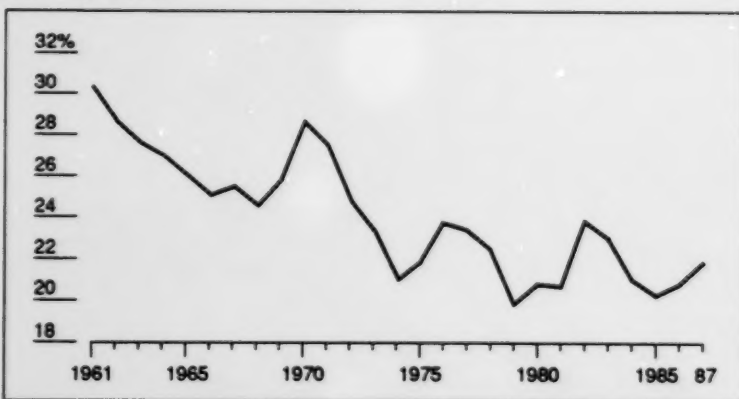


Chart 2

Service imports as a percentage of merchandise imports,
Canada, 1961-87



of the years. The major exception is 1967. In this year, exports on the travel subaccount (i.e., travellers coming to Canada) rose sharply to 47.7 per cent of total service exports, thus causing the percentage rise in service exports relative to merchandise exports displayed in Chart 1. The Montreal Expo was responsible for this one-year aberration in travel exports. A similar, though

somewhat less dramatic, relative increase in travel exports occurred in 1986, the year of the Vancouver Expo. The freight and shipping subcategory of the service-export account has been relatively constant between 1961-81, but since then has displayed a significant fall in relative importance. Business-services exports are the most interesting of the service subaccounts in that they have grown more or less steadily from 14.3 per cent of the total of service exports in 1961 to 33 per cent in 1987. Finally, government transactions fell in relative importance, while other services have maintained a basically constant share of the total.

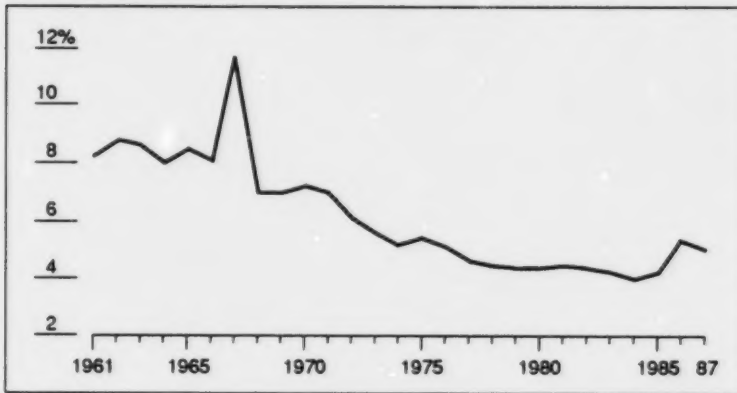
Table A-2 also shows the percentage contribution of each of the five subaccounts to the service-import total. The relative importance of the travel imports (i.e., Canadian residents travelling outside Canada) has been essentially constant with a small, short-term cyclical pattern. The relative importance of freight and shipping imports has declined steadily and dramatically from approximately 33 per cent of total service imports in the early 1960s to 19 per cent in 1987. Reflecting the rising relative importance of international transactions of business services noted for exports is the parallel observation that business-service imports have risen from approximately 22 per cent of total service imports in the early 1960s to almost 40 per cent in 1987. The relative importance of service imports on the government transactions subaccount have drifted down slowly over the period of analysis, and the "other services" category remains small and constant in percentage share terms.

Table A-3 shows the time-series pattern of disaggregated service-sector exports and imports deflated by merchandise exports and imports, respectively. Charts 3, 4, and 5 display the deflated time series for the important exports of travel services, freight and shipping, and business services, respectively. Travel exports as a percentage of merchandise exports have declined in relative importance between 1961-87, with the exception of a large jump in 1967 due to the Montreal Expo, and a smaller rise in 1986 due to the Vancouver Expo. Freight and shipping exports have continuously declined relative to merchandise exports over the period. As might be expected, given the sustained growth in the share of business-service exports shown in Table A-2, the relative importance of business-service exports relative to merchandise exports has steadily increased over the period from 3.1 per cent in 1961 to 4.7 per cent in 1987 as shown in Chart 5.

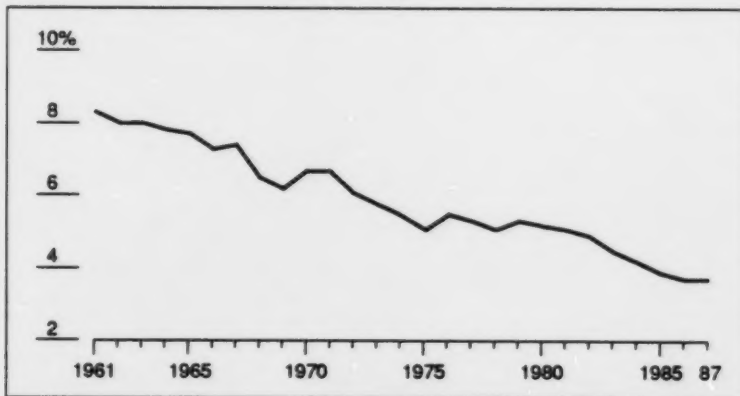
Although some readers may be surprised by the relatively small size of the business-services export figures when deflated by the value of merchandise exports, it is worth noting that during the 1980s, the category has been approximately equal to the travel subaccount in terms of generating export earnings. In fact, receipts from the export of Canadian business services exceed earnings from travel exports in 1983, 1984, and 1985. It is only the significant rise in travel receipts due to the Vancouver Expo in 1986 that temporarily

Chart 3

**Travel exports as a percentage of merchandise exports,
Canada, 1961-87**

**Chart 4**

**Freight and shipping exports as a percentage of
merchandise exports, Canada, 1961-87**



reversed the emerging pattern of business-service exports exceeding travel exports. Despite the increasing importance of business-service exports, its contribution to domestic income and employment creation is not nearly as well understood as are the tourism and hospitality expenditures associated with travel exports. Finally, exports due to government transactions have

Chart 5

Business-services exports as a percentage of merchandise exports, Canada, 1961-87



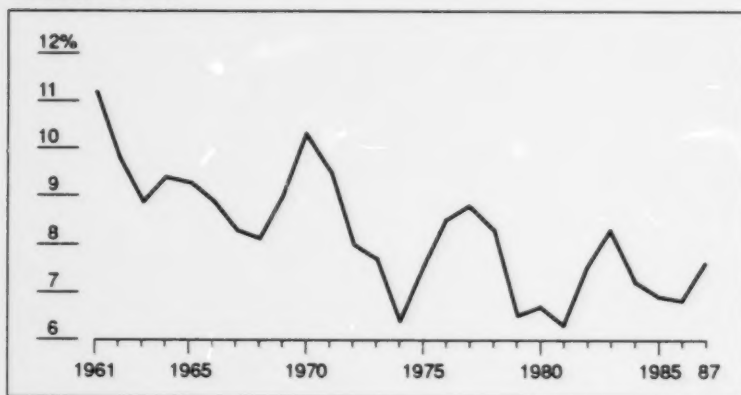
steadily declined relative to merchandise exports, and the "other services" category is small and approximately constant in relative terms.

Disaggregated service-sector imports relative to merchandise imports display a pattern which can be seen in Table A-2, and which is displayed in Charts 6, 7, and 8. Specifically, travel imports show a slow, general downward drift with significant subperiod fluctuations relative to merchandise imports, while freight and shipping imports show a significant and sustained decline in relative importance. Imports of business services show an upward drift relative to merchandise imports, but in comparison to the relative service-export figures, there is a more cyclical motion. Imports of business services are now firmly established as the largest of the service subaccounts, exceeding travel imports by a significant margin. Finally, imports on the government transactions subaccount show a steady downward drift relative to merchandise imports, and "other services" transactions are more or less constant.

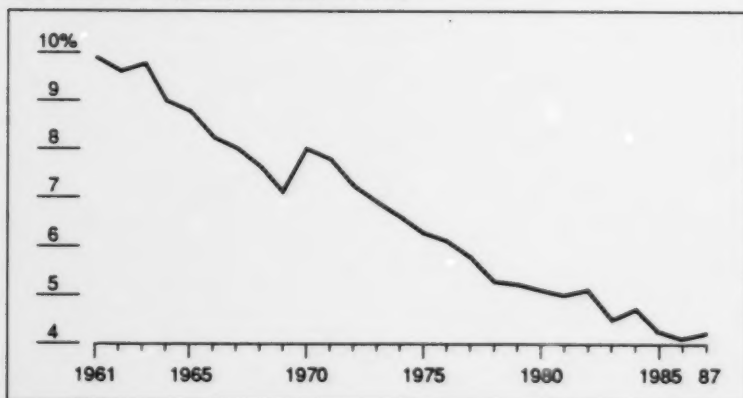
The moderately interested reader looking at the results displayed in Chart 1 must be forgiven for wondering why Canada's trade in services has captured the recent interest of statisticians, economists, and policymakers. Service-sector exports as a percentage of Canada's merchandise exports have fallen almost steadily over the 1961-87 period. The major exceptions to this downward trend were caused by jumps in tourism exports associated with the Montreal Expo in 1967 and, to a lesser extent, the Vancouver Expo in 1986. However, these aggregate statistics on service-sector exports mask an important development occurring in the subaccounts that make up the overall service

Chart 6

Travel imports as a percentage of merchandise imports, Canada, 1961-87

**Chart 7**

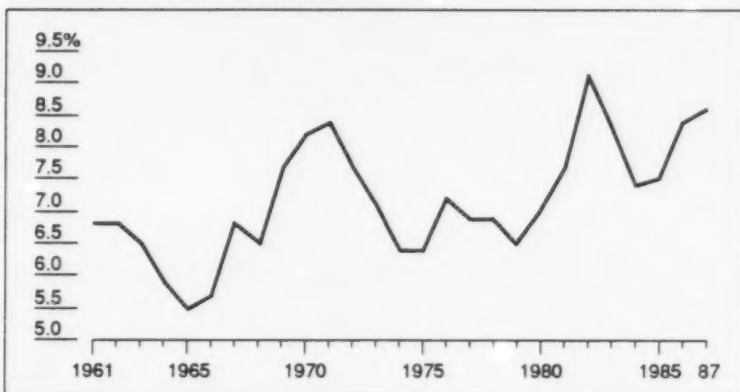
Freight and shipping imports as a percentage of merchandise imports, Canada, 1961-87



account. Specifically, Chart 5 shows that exports of business services, relative to merchandise exports, have displayed a general upward drift over the period, partially offsetting the downward drift in travel exports and, especially, freight and shipping exports. Exports of business services have risen to the point where they exceeded export earnings on the travel subaccount

Chart 8

Business-services imports as a percentage of merchandise imports, Canada, 1961-87



during 1983-85 and, if the emerging growth pattern continues, will again exceed travel exports in the near future.

The pattern with respect to service imports into Canada is approximately the same, although there is more of a cyclical pattern in some of the major subaccounts of the overall services balance. Travel imports as a percentage of merchandise imports display a general downward drift, and the freight and service account shows a sustained and rapid decline over the period 1961-87. Imports of business services, again expressed as a percentage of merchandise imports, show a general upward drift over time and are now firmly established as the largest service-sector import.

Removing Auto-Pact Trade

The 1965 auto pact between Canada and the United States and its subsequent refinements⁷ created a duty-remission scheme designed to encourage designated auto assemblers to rationalize their North American production facilities. The result has been a significant increase in the volume of cross-border trade in automobile parts and vehicles. For example, in 1965, Canadian exports of motor vehicles and parts made up 4.2 per cent of the total value of Canadian merchandise exports and, in 1987, the percentage share had risen to 34 per cent. The import figures for automobile vehicles and parts are equally dramatic, rising from a share of 11.3 per cent of total merchandise imports in 1965 to 40.4 per cent in 1987.

Because the auto pact created a very different set of trade rules for a significant and growing subset of merchandise trade, it is insightful to measure the relative importance of service-sector imports and exports in comparison to the volume of nonauto-pact merchandise trade.

These results, which are not presented here, may be summarized as follows:

- relative service-sector exports and imports show a much less pronounced downward trend over the period 1961-87;
- since 1980, both travel and business-services exports have displayed a consistent upward trend, counterbalancing the downward trend that remains in the freight and shipping service subaccount, and thus causing the total to rise;
- relative service-sector imports over the period 1961-87 show much higher subperiod volatility - caused almost entirely by the travel import subaccount - when the stabilizing influence of auto-pact imports are removed;
- for both imports and exports of freight and shipping services, removal of auto-pact trade from the merchandise account shows that the significant relative declines that occurred in both series did not begin until 1971. Until that time, freight and shipping exports and imports were growing more or less in proportion to nonauto-pact trade.

Corrections to the Reported Volume of Service Trade

Before proceeding to a detailed analysis of the volume, growth rates, and structure of Canada's trade in business services, two sources of service-trade underestimation must be discussed. First, banking-service exports and imports are not available separately from other banking transactions and are currently included with investment income in the balance of payments. Thus they are totally excluded from the reported statistics on business-services trade⁸ and all tables and charts presented in this monograph.

In addition to excluding banking services, the Canadian international trade in service publications make no attempt at measuring the volume of service outputs that are exported or imported indirectly in a form embodied in some physical output. Harris and Cox [1988] have recently presented evidence which suggests that the total value of service-sector output that is embodied in a dollar's worth of individual commodity exports is significant. Basing their analysis on the 1981 Canadian input-output table with 88 sectors, including 15 service sectors, they show that, on average, each dollar's worth of commodity exports contains 22 cents of service-sector output. The range is from 43 cents for the petroleum-and-gas-wells sector to 13 cents for fishing

and hunting. Thus, if on average 22 per cent of the value of merchandise exports are really service-sector outputs that are indirectly exported in a form embodied in some physical export, it may be concluded that Canadian service-export volumes are considerably higher than that reported in Table A-1 and displayed in Chart 1. For example, in 1987, Canada generated \$18,089 million of direct service exports by one of three export vehicles: cross-border trade via a communications network, temporary movement of the supplier, or temporary movement of the demander. In addition, it may be argued that approximately 22 per cent of the \$125,765 million in merchandise exports, or \$27,668 million, are service-sector exports that enter into international commerce indirectly through the merchandise account. The total of direct and indirect service exports is therefore \$45,757 million, or 36 per cent of the reported value of merchandise trade in 1987, still excluding exports of banking services. This is considerably higher than the ratio of 14.4 per cent that is obtained when only directly exported services are considered.⁹

International Comparisons of Trade in Services

The growing visibility of international trade in services as a global policy issue has focused attention on the need for reliable international information on world trends in service-sector imports and exports. Data on international-services trade compiled by member countries have recently been published by the Organisation for Economic Co-operation and Development [1987] for the period 1974-84. The Australian Bureau of Industry Economics [1988] has used the OECD data to estimate the total value of service-sector exports and imports by major OECD countries. This information is reported here as Table 1.

As may be seen in Table 1, service-sector exports from the major OECD countries totalled US\$294 million in 1984, with service imports by the same group of countries reported at US\$285 million. The most important countries in terms of service-export values are the United States (US\$54 million), France (US\$51 million), Germany (US\$33 million), and the United Kingdom (US\$28 million). Together these four leading service exporters account for 58 per cent of the total reported for the major OECD countries. Of the 16 OECD countries reported in Table 1, Canada ranks tenth in terms of service-export volume, just behind Spain and ahead of Denmark. For comparison, Canada ranks sixth in terms of total exports, just behind France and ahead of the Netherlands.

Ten of the 16 OECD countries report surpluses on their international service-sector transactions in 1984. France produced the largest surplus (US\$8.6 million) followed by Spain (US\$7.5 million), the United Kingdom (US\$5 million), and Italy (US\$4.4 million). Only six countries listed in Table 1 reported service deficits in 1984. Japan has the largest reported deficit of

Table 1

Service exports and imports for major OECD countries, 1984

	Service exports	Service imports	Service balance	Service exports as a percentage of total
(Millions of US\$)				
United States	53,687	53,890	-203	24.6
Japan	23,386	35,364	-11,978	13.8
Germany	32,521	37,842	-5,321	19.0
France	51,277	2,685	8,592	55.1
United Kingdom	28,436	23,456	4,980	30.2
Italy	19,554	15,161	4,393	26.6
Canada	10,856	14,253	-3,397	12.5
Austria	7,243	4,408	2,835	46.1
Belgium- Luxembourg	13,007	10,926	2,081	25.1
Denmark	7,304	7,127	177	45.9
Netherlands	14,501	13,998	503	22.1
Norway	6,961	7,026	-65	36.9
Portugal	1,731	1,239	492	33.5
Spain	12,631	5,105	7,526	53.7
Sweden	6,920	6,095	825	23.6
Australia	3,796	6,363	-2,567	15.5
Total	293,811	284,938	8,873	25.4

Source: Compiled from Australia, Bureau of Industry Economics (1988) using OECD data.

US\$12 million, followed by Germany (US\$5.3 million), Canada (US\$3.4 million), and Australia (US\$2.6 million).

Table 1 also shows the value of service exports as a percentage of total exports for each of the 16 OECD countries.¹⁰ The weighted average of this ratio for all 16 OECD countries is 25.4 per cent, with a range of 12.5 per cent for Canada to 55.1 per cent for France. Thus Canada has the lowest reported propensity to export services when compared to similar figures for the major OECD countries.

In order to help member countries maintain consistency in their reporting of international service transactions, the OECD provides classifications and definitions on four basic types of international service activities – travel, transportation, government, and “other services.” The category “other services” includes insurance, intellectual property income, commissions and brokerage, films and television, construction and engineering, communications, processing and repair, advertising, merchanting, consultancy and technical co-operation, banking, and rentals.

The service category of "merchandising" is an important component of service exports¹¹ for 5 of the 16 countries contained in Table 1. Almost one half of France's 1984 reported export of services are merchandising activities. Denmark is next with 39 per cent, followed by Italy (12 per cent), Germany (11 per cent), and Belgium-Luxemburg (7 per cent). Despite the importance of this activity for the reported value of service exports and service-export propensity – especially for France and Denmark – there are major divergences between countries regarding the exact nature and value of activities measured and recorded as merchandising. After a discussion of the various different definitions used by OECD member countries, the Australian Bureau of Industry Economics [1988, 49] concluded that both France and Denmark recorded the value of merchandise actually bought and sold as part of merchandising activities. Thus the reported figures vastly overstate the true value of intermediation services being provided and should be discounted. Other countries reporting merchandising export values record figures net of the value of the commodities being bought and sold.

A Focus on Business-Services Trade

Growth Rates

Table 2 displays the various subcategories of business services in terms of their relative importance of the total in 1969, the average annual rate of growth over the period 1969-86, and their resulting percentage share of the total in 1986. In general, the table records a pattern of considerable fluctuation over the period 1969-86. Business-services exports in 1969 were largely dominated by commissions earned by wholesale merchants and brokers on merchandise trade, transportation-related services, tooling and other automotive charges, and equipment rentals. In total, these four subcategories accounted for 59 per cent of the total value of Canadian business-services exports in 1969. During the period 1969-86, the most rapidly growing business-services exports, on the basis of average annual growth rates, were communications services (41.3 per cent), research and development (35.2 per cent), computer services (29.9 per cent), and royalties, patents, and trademarks (25.7 per cent). As a result of these high-average annual growth rates, the structure of Canada's export of business services looked quite different in 1986. For example, the four largest business-subsector exports in 1969 accounted for only 41 per cent of the total in 1986 versus 59 per cent in 1969. Only tooling and other automotive services exports were able to increase their share in 1986, the remaining three subcategories declining dramatically over the period. The four most rapidly growing sectors are still relatively small in terms of their overall share of business-services exports in 1986 – they account for nearly 20 per cent of the total – but the large share and rapid growth rates of communications, and

Table 2

Business services by category, average annual growth rates,
Canada, 1969-86

	1969 share	Average annual growth rate 1969-86	1986 share
	(Per cent)		
Exports			
Consulting and other professional services	7.3	19.4	13.5
Transportation related services	14.9	12.2	11.0
Management and administrative services	6.6	14.3	3.8
Research and development	3.1	35.2	8.9
Commissions	22.4	11.9	12.3
Royalties, patents, and trademarks	0.7	25.7	1.4
Films and broadcasting	1.7	6.2	0.5
Advertising and promotional services	2.3	6.3	0.7
Insurance	9.3	18.7	11.6
Other financial	0.0		3.2
Computer services	0.0	29.9	2.4
Equipment rentals	10.7	9.6	4.2
Franchises and similar rights	0.0		0.0
Communications	1.0	41.3	6.9
Refining and processing services	0.0	15.8	2.0
Tooling and other automotive charges	11.0	17.9	13.5
Other	8.9	10.0	4.1
Total	100.0	15.4	100.0
Imports			
Consulting and other professional services	9.0	14.2	3.5
Transportation related services	7.1	14.7	8.2
Management and administrative services	10.1	13.7	10.4
Research and development	5.3	34.0	10.0
Commissions	7.5	13.4	5.9
Royalties, patents, and trademarks	12.5	13.4	12.1
Films and broadcasting	3.9	8.8	2.1
Advertising and promotional services	2.8	13.7	1.1
Insurance	7.6	18.5	11.4
Other financial	0.0		8.7
Computer services	0.0	16.1	1.1
Equipment rentals	6.3	10.3	4.9
Franchises and similar rights	0.8		0.4
Communications	1.3	28.8	4.1
Tooling and other automotive charges	12.4	29.6	9.6
Other	13.3	9.8	6.4
Total	100.0	15.1	100.0

SOURCE Based on data from Statistics Canada, cat. 67-203.

research and development business-services exports make these subsectors strategically important.

Parallel information for imports of business services is also presented in this table. Major business-services imports in 1969 were the residual "other" category, royalties, patents, and trademarks, tooling and other automotive charges, and management and administrative services. In total, these four subsectors accounted for 48 per cent of the total value of business-services imports into Canada. By 1986, the four largest business-services imports were royalties, patents, and trademarks, insurance, management and administrative services, and research and development charges. Rapid average annual rates of growth were recorded in research and development services imports (34 per cent), tooling and other automotive charges (29.6 per cent), communications (28.8 per cent), and insurance (18.5 per cent).

Spatial Pattern of Trade in Business Services

Table 3 displays the spatial pattern of Canadian business-services exports and imports for the years 1983 and 1986. In aggregate, and based on the 1986 pattern of business-services exports, it is clear that the United States is Canada's best customer, absorbing nearly 56 per cent of the value of Canadian exports. What is surprising about this figure is the fact that it is so much less than the 77 per cent of Canadian merchandise exports which go to the United States. A very high proportion of business-services exports, especially consulting and other professional services and communications services, go to countries other than the United States or members of the European Economic Community (EEC). Similar information for 1983 shows that over the period 1983-86, exports to the United States and the EEC have become more important while exports to other countries have fallen. Business-services subsectors with particularly high proportions of exports to the United States are tooling and other automotive charges, films and broadcasting, research and development, and equipment rentals.

Imports of business services are much more closely tied to the United States – nearly 70 per cent of the value of business-services imports to Canada originate from the United States, although there are important exceptions such as communications services, other financial services, and consulting and other professional services. Imports of tooling and other automotive charges, computer services, research and development services, advertising and promotional services, and management and administrative services are imported into Canada almost exclusively from the United States. Between 1983 and 1986, the overall spatial pattern of business-services imports has been basically stable.

Arm's Length or Establishment Trade?

The section entitled "How Are Service Outputs Traded?" made clear that, in addition to the four vehicles by which service activities may enter into international commerce, it is important to realize that transactions may be of an arm's-length variety between nonaffiliated establishments, or inter-establishment exchanges done within the umbrella of a multinational enterprise (establishment trade). With respect to the export of business services, Tables 4 and 5 show that Canadian exports are dominated by arm's-length transactions. For example, approximately two thirds of Canadian business-services exports – 67.2 per cent in 1983 and 63.7 per cent in 1986 – are with nonaffiliated establishments.

When this result is displayed in terms of the geographical pattern of exports, both Tables 4 and 5 show that exports of business services to countries other than the United States are almost always of the arm's-length variety, while exports to the United States are approximately evenly split between arm's length and establishment trade. In terms of business-services subsectors with export patterns dominated by arm's-length sales, communications, refining and processing services, equipment rentals, and consulting and other professional services are especially important. Business-services subsectors which export through interestablishment channels reflect the historical pattern of Canada/U.S. foreign direct investment and are strongly associated with exports to the United States in the tooling and other automotive charges, franchises, and research and development categories.

When business-services imports are displayed according to the same categories as for exports, Tables 4 and 5 show that establishment trade is considerably more important. Approximately one half of business-services imports into Canada – 48.7 per cent in 1983 rising to 55.3 per cent in 1986 – are with affiliated establishments. As expected, given the significance of Canada/U.S. investment patterns, most establishment trade is with the United States and is especially important in the tooling and other automotive charges, research and development, management and administrative services, and royalties, patents and trademarks categories.

Further insights into the structure of arm's length versus establishment trade in business services can be achieved by displaying the export and import data not in terms of the geographic pattern of trade, but in terms of the industrial category of the firms engaging in the export or import of business services. Tables 6 and 7 show that nearly three quarters of Canadian business-services exports – 74.8 per cent in 1983 and 74.9 per cent in 1986 – are sold to other service-sector firms most often through an arm's-length mechanism. Business subsectors with especially high ratios of service exports to other service-sector

Table 3
Business-services exports and imports by area, Canada, 1983 and 1986

	Trade with the United States		Trade with the EEC		Trade with others	
	1983	1986	1983	1986	1983	1986
	(Per cent)					
Exports						
Consulting and other professional services	13.2	17.5	2.6	3.9	84.0	78.6
Transportation-related services	36.2	30.5	34.4	40.9	29.2	28.4
Management and administrative services	53.7	65.0	19.8	19.6	27.3	15.4
Research and development	89.8	89.9	1.3	6.4	8.9	4.0
Commissions	54.2	49.9	16.1	21.8	29.7	28.1
Royalties, patents, and trademarks	64.7	58.8	7.8	11.3	27.5	30.0
Films and broadcasting	88.0	92.6	8.0	3.7	4.0	3.7
Advertising and promotional services	65.9	46.3	13.6	24.4	22.7	31.7
Insurance	63.3	66.5	25.3	21.7	11.6	11.8
Other financial		30.0		37.2		32.8
Computer services	84.5	75.5	1.4	0.7	14.1	23.0
Equipment rentals	64.8	80.9	2.5	5.5	32.7	13.1
Franchises and similar rights	0.0	0.0	0.0	100.0	0.0	0.0
Communications	38.4	29.9	18.1	28.9	43.9	41.1
Refining and processing services	61.6	45.1	2.7	19.5	35.6	35.4
Tooling and other automotive charges	97.5	94.3	1.3	4.7	1.2	1.0
Other	71.2	58.6	5.1	6.9	23.7	34.9
Total	53.7	55.9	12.0	16.7	34.2	27.4

Table 4
Business-services exports and imports by area and affiliation of the transacting company,
Canada, 1983

	Trade with the United States		Trade with the EEC		Trade with others	
	Affiliates	Other	Affiliates	Other	Affiliates	Other
	(Per cent)					
Exports						
Consulting and other professional services	8.0	5.2	0.5	2.3	2.4	81.7
Transportation-related services	0.6	35.6	1.4	33.2	3.2	26.0
Management and administrative services	49.6	4.1	12.4	6.6	12.4	14.9
Research and development	86.8	3.0	1.3	0.4	7.7	1.3
Commissions	9.2	45.2	2.5	13.6	3.8	25.9
Royalties, patents, and trademarks	41.2	23.5	5.9	2.0	13.7	15.7
Films and broadcasting	12.0	76.0	0.0	8.0	0.0	4.0
Advertising and promotional services	11.4	54.5	13.6	0.0	22.7	0.0
Insurance	5.8	57.5	5.6	19.5	0.7	10.9
Other financial						
Computer services	18.3	67.6	1.4	0.0	1.4	14.1
Equipment rentals	0.5	64.3	0.5	2.0	9.5	23.1
Franchises and similar rights	100.0	0.0	0.0	0.0	0.0	0.0
Communications	3.8	35.0	0.0	18.1	0.0	43.9
Refining and processing services	0.0	61.6	0.0	2.7	0.0	35.6
Tooling and other automotive charges	97.5	0.0	1.3	0.0	1.2	0.0
Other	51.2	20.0	2.3	2.8	17.7	6.0
Total	26.6	27.2	2.2	9.9	4.2	30.1

Imports	23.7	15.8	1.1	1.5	4.1	53.8
Consulting and other professional services	1.2	37.4	0.0	36.5	2.5	22.4
Transportation-related services	78.6	13.1	2.3	3.1	1.9	0.8
Management and administrative services	78.8	10.8	3.8	2.9	3.8	0.0
Research and development	18.9	42.6	1.9	8.9	2.8	25.1
Commissions	71.7	14.5	4.6	3.1	3.5	2.5
Royalties, patents, and trademarks	36.8	50.6	9.8	1.7	0.0	0.6
Films and broadcasting	36.2	55.1	1.4	0.0	1.4	6.8
Advertising and promotional services	10.7	53.7	8.3	16.6	0.1	10.7
Insurance	19.6	31.2	0.0	36.5	0.0	13.1
Other financial	72.9	25.7	1.4	0.0	0.0	0.0
Computer services	10.3	68.0	0.5	15.0	0.0	6.2
Equipment rentals	28.6	71.4	0.0	0.0	0.0	0.0
Franchises and similar rights	3.6	8.8	0.0	0.0	0.0	0.0
Communications	99.8	0.2	0.0	37.6	0.0	49.5
Tooling and other automotive charges	51.2	12.7	13.1	0.0	0.0	0.0
Other				1.0	9.6	12.5
Total	42.6	28.6	3.6	11.3	2.3	11.5

Source: Based on data from Statistics Canada, cat. 67-203.

Table 5
Business-services exports and imports by area and affiliation of the transacting company,
Canada, 1986

	Trade with the United States		Trade with the EEC		Trade with others	
	Affiliates	Other	Affiliates	Other	Affiliates	Other
(Per cent)						
Exports						
Consulting and other professional services	6.3	11.2	0.8	3.1	3.8	74.6
Transportation-related services	0.0	30.5	0.0	40.9	0.0	28.6
Management and administrative services	55.6	9.3	19.6	0.0	9.8	5.6
Research and development	84.3	5.6	5.4	1.0	1.4	2.6
Commissions	7.6	42.4	4.3	17.5	1.9	26.2
Royalties, patents, and trademarks	26.3	32.5	2.5	8.8	3.8	26.3
Films and broadcasting	0.0	92.6	0.0	3.7	0.0	3.7
Advertising and promotional services	31.7	14.6	24.4	0.0	29.3	0.0
Insurance	25.2	41.3	5.5	16.2	1.2	10.8
Other financial	0.0	30.0	0.0	37.2	0.0	32.8
Computer services	7.2	69.1	0.7	0.7	0.0	23.0
Equipment rentals	2.1	78.8	2.5	3.4	0.4	12.7
Franchises and similar rights	0.0	0.0	100.0	0.0	0.0	0.0
Communications	4.6	25.4	0.0	28.9	0.0	41.1
Refining and processing services	0.0	45.1	0.0	19.5	0.0	35.4
Tooling and other automotive charges	94.3	0.0	4.6	0.1	1.0	0.0
Other	42.7	15.9	6.5	0.4	24.1	10.8
Total	29.9	26.0	3.7	13.0	2.8	24.7

firms may be obtained directly from Tables 6 and 7. Business-services exports to firms in the manufacturing sector comprise 21 per cent of business-services exports in 1983 and 21.6 per cent in 1986. However, unlike business-services exports to other service-sector firms, exports to manufacturing firms are almost entirely accomplished through affiliate relationships, not arm's-length sales. Finally, service exports to firms in the petroleum and mining sector are relatively unimportant in total, but are most often accomplished via arm's-length relationships.

Canadian imports of business services are also dominated by firms in the service sector of the economy, but not to the same degree as noted for exports. Business-services imports by Canadian service-sector firms made up 52.9 and 54.7 per cent of business-services imports in 1983 and 1986, respectively, significantly less than the approximately 75 per cent reported for business-services exports. However, similar to the situation noted for exports, business-services imports usually take place via arm's-length transactions, although there are important exceptions to this observation in some of the reported subsectors. Business-services imports by manufacturing firms are more important than for exports in that they account for 34.4 and 38.7 per cent of the total business-services imports in 1983 and 1986, respectively. Again, establishment trade is the most important mechanism by which manufacturing firms import business services into Canada.

Finally, imports of business services by firms in the petroleum and mining sector are more important than for exports – 12.7 and 6.5 per cent of the import total in 1983 and 1986, respectively.

Trade in Business Services by Country of Control

Table 8 shows the export and import pattern of business services according to country of control of the exporting or importing enterprise. For all categories of business services added together, Canadian-controlled enterprises account for two thirds of our export of business services – 66.5 per cent in 1983 and 64.7 per cent in 1986. U.S.-controlled enterprises make up one quarter of Canadian business-services exports, and enterprises controlled outside Canada or the United States make up the remainder. Business-services subsectors with relatively high levels of exports from foreign-controlled Canadian establishments are tooling and other automotive charges, insurance, and advertising and promotional services.

The pattern of Canadian imports of business services is interesting in that Canadian-controlled enterprises account for a significant proportion – 36.7 per cent in 1983 and 38.5 per cent in 1986 – of our imports. In other words, it is

reasonable to expect U.S.-controlled firms in Canada to import many of their business-services needs – 51.1 per cent in 1983 and 50.9 per cent in 1986 – but it is somewhat surprising to find that Canadian-controlled firms are only slightly less important in terms of business-services imports.

Export-Dependent Employment in the Service Sector

An Aggregate Analysis

Table 9 provides an estimate of the number of service-industry jobs which are dependent on the direct export of services, i.e., exported across the border via a communications network or by the temporary movement of suppliers or demanders. The estimated number of service-industry jobs which depend on direct exports is obtained by using the share of service output in use, broken into the categories' intermediate input, export demand, and final demand as used by Harris and Cox [1988]. Thus their 88-sector 1981 input-output model with 15 service sectors shows (column 1) the direct export share of air transportation services at 5 per cent of total demand, with intermediate use and final demand shares making up the remaining 41 and 54 per cent, respectively. Harris and Cox show that the export shares for the 15 service sectors in the input-output model range from a high of 32 per cent for rail transportation to a low of 0.02 per cent for the food and accommodation sector. In total, and based on the 1988 employment figures from the Survey of Employment Payroll and Hours, the 15 service sectors under consideration had 6.882 million employees distributed across the service sectors as shown in column 2 of Table 9. There is no entry for the public administration and defense sector because of the lack of market transactions in these industries. Input-output methodology simply measures the output from these sectors by their input, with no accounting made of how the output is actually used.

If it can be assumed that the proportion of export-dependent employment in the 15 service sectors is directly proportional to their export share of total demand obtained from Harris and Cox, it may be calculated that nearly 250,000 service-industry jobs are directly dependent on exports. This represents only 3.6 per cent of the 6.882 million service-industry jobs in 1988 and leads to the conclusion that relatively few Canadian jobs are directly dependent on service-sector exports.

Service-industry employment which is embodied in some physical output, and hence depends on the export of merchandise in order to enter into international commerce, is undoubtedly much more important than directly exported services. Earlier, it was reported that, on average, one dollar's worth

Table 6
Business-services exports and imports by industrial category and affiliation of the exporting and importing company, Canada, 1983

	Trade by enterprises in:					
	Petroleum and mining		Manufacturing		Services	
	Affiliates	Other	Affiliates	Other	Affiliates	Other
Exports	(Per cent)					
Consulting and other professional services	0.1	3.2	3.0	0.6	7.6	85.4
Transportation-related services	0.0	0.0	0.0	0.0	5.0	94.8
Management and administrative services	10.7	0.8	41.3	8.3	22.3	16.5
Research and development	0.4	1.3	33.6	3.4	61.7	0.0
Commissions	0.0	0.0	5.6	2.1	9.8	82.4
Royalties, patents, and trademarks	27.5	7.8	25.5	23.5	7.8	9.8
Films and broadcasting	0.0	0.0	0.0	0.0	12.0	88.0
Advertising and promotional services	0.0	0.0	0.0	36.4	45.5	18.2
Insurance	0.0	0.0	0.9	0.2	11.1	87.7
Other financial						
Computer services	0.0	0.0	18.3	0.0	1.4	80.3
Equipment rentals	10.1	0.5	0.5	3.0	0.0	85.9
Franchises and similar rights	0.0	0.0	0.0	0.0	0.0	100.0
Communications	0.0	0.0	0.0	0.0	3.8	96.6
Refining and processing services	0.0	100.0	0.0	0.0	0.0	0.0
Tooling and other automotive charges	0.0	0.0	97.3	0.0	2.7	0.0
Other	3.3	2.3	16.3	11.6	51.6	14.9
Total	1.4	2.8	18.7	2.3	12.8	62.0

Table 7

Business-services exports and imports by industrial category and affiliation of the exporting and importing company, Canada, 1986

	Trade by enterprises in:					
	Petroleum and mining		Manufacturing		Services	
	Affiliates	Other	Affiliates	Other	Affiliates	Other
(Per cent)						
Exports						
Consulting and other professional services	0.1	3.3	2.4	2.5	8.4	83.3
Transportation-related services	0.0	0.0	0.0	0.0	0.0	100.0
Management and administrative services	12.1	0.0	37.9	9.3	35.0	5.1
Research and development	2.0	0.0	29.4	8.2	59.4	1.0
Commissions	0.0	0.0	3.7	1.3	10.0	85.0
Royalties, patents, and trademarks	1.3	7.5	23.8	21.3	7.5	38.8
Films and broadcasting	0.0	0.0	0.0	0.0	0.0	100.0
Advertising and promotional services	0.0	0.0	12.2	9.8	73.2	7.3
Insurance	0.5	1.1	0.6	0.0	30.8	67.2
Other financial	0.0	0.0	0.0	0.0	0.0	100.0
Computer services	0.0	0.0	2.2	0.0	5.0	92.1
Equipment rentals	0.4	0.0	0.8	2.1	3.4	92.8
Franchises and similar rights	0.0	0.0	0.0	0.0	100.0	0.0
Communications	0.0	0.0	0.0	0.0	4.6	95.4
Refining and processing services	0.0	100.0	0.0	0.0	0.0	0.0
Tooling and other automotive charges	0.0	0.0	93.9	0.0	6.0	0.1
Other	1.7	1.7	14.7	20.3	56.5	5.6
Total	0.8	2.7	18.7	2.9	16.9	58.0

Table 8

Business-services exports and imports by country of control of the transacting company, Canada, 1983 and 1986

	Trade by enterprises controlled in:					
	Canada		United States		Other countries	
	1983	1986	1983	1986	1983	1986
Exports						
Consulting and other professional services	86.1	89.7	7.9	7.6	6.2	2.7
Transportation-related services	93.2	93.6	6.6	6.4	0.0	0.0
Management and administrative services	78.5	67.8	16.5	22.4	5.0	9.3
Research and development	64.7	62.6	34.5	32.4	0.9	5.0
Commissions	87.0	85.4	7.3	6.7	5.6	7.8
Royalties, patents, and trademarks	39.2	57.5	43.1	32.5	17.6	8.8
Films and broadcasting	88.0	100.0	12.0	0.0	0.0	0.0
Advertising and promotional services	54.5	34.1	2.3	4.9	45.5	63.4
Insurance	43.4	31.0	31.1	39.3	25.5	29.7
Other financial		100.0		0.0		0.0
Computer services	81.7	97.1	16.9	1.4	1.4	1.4
Equipment rentals	86.4	95.8	13.6	3.8	0.0	0.4
Franchises and similar rights	0.0	0.0	0.0	0.0	100.0	100.0
Communications	93.7	92.9	6.8	7.1	0.0	0.0
Refining and processing services	100.0	100.0	0.0	0.0	0.0	0.0
Tooling and other automotive charges	0.0	0.0	97.3	93.9	2.7	6.3
Other	28.4	13.4	24.7	28.0	47.0	58.6
Total	66.5	64.7	25.0	25.8	8.5	9.5

(Per cent)

Table 9

Estimated level of service-sector employment which is directly dependent on exports, Canada, 1988

	Export share of total demand	1988 employment level	Export dependent employment
	(Ratio)	(Number of persons)	
Air transportation	0.05014	59,530	2,985
Rail transportation	0.31903	76,742	24,483
Truck transportation	0.21179	115,233	24,405
Other transportation and storage	0.20275	209,341	42,444
Communications	0.02175	224,914	4,892
Electric power	0.11775	87,545	10,308
Other utilities	0.00945	122,189	1,155
Wholesale trade	0.11795	549,811	64,850
Retail trade	0.00291	1,289,821	3,753
Finance, insurance, and real estate	0.01093	643,295	7,031
Health and education	0.00848	1,807,755	15,329
Amusement and recreation	0.00207	153,724	318
Business services	0.08683	522,657	45,382
Food and accommodation	0.00015	679,805	102
Personal and miscellaneous services	0.00666	339,947	2,264
Total		6,882,309	249,701

Source: Based on data from Statistics Canada, Survey of Employment Payroll and Hours; Harris and Cox [1988].

of merchandise exports contains 22 cents' worth of service inputs, but unfortunately the employment consequences of this observation can only be calculated by further manipulations of the Harris and Cox input-output model.

A Second Approach Focusing on Business-Services Employment

Recently, Statistics Canada has produced data tables that add a measure of average annual employment to firms involved in international trade in business services. Their method involved first identifying firms that recorded an international receipt or payment in a business-services category, then linking these firms to a database of businesses that have paid employees.¹² Thus for firms that were successfully linked, estimates are available for the value of

international receipts and payments, average annual employment, for 1983 to 1986, categorized by country of control of the enterprise and industry category.

Several important points must be borne in mind regarding these data. First, the reported average annual employment is the total employment of the business reporting an international business-services transaction, and not the employment directly associated with the service being exported or imported. Also, the reported employment figure may relate to the production of goods as well as services, since a business classified as goods producing may also record international transactions in services and hence be included in the database. Third, time-series information may be somewhat misleading because companies are included in the linked database only for the years in which they record an international transaction. Thus a large service employer who has only periodic international business-services sales may move the year-to-year totals rather significantly. Finally, reported levels of average annual employment do not add to the reported totals because a given business may have transactions recorded in several categories. The totals in the tables represent the employment of each business only once, regardless of the number of times it enters the table.

Table 10 contains Statistics Canada's average annual employment estimates for the subcategories of directly traded business services. These data must be interpreted carefully because they represent average annual employment levels in firms that recorded a business-services export or import, not the employment directly associated with trade in business services. Thus, in 1986, firms that recorded an export of business services reported average annual employment of 761,000, while Canadian firms importing business services have an average annual employment of 1.5 million. The various business-services subcategories are interpreted in exactly the same fashion. Thus, in 1986, firms that recorded an export of consulting and other professional services reported a total employment level of 196,000, while firms importing consulting and other professional services had average annual employment of 446,000.

It is difficult to know how to use this employment information for the purposes of this analysis. First, the actual number of jobs in business-services firms that export some proportion of their output is not a very exact measure of their degree of export sensitivity. For example, in 1986, the Survey of Employment Payroll and Hours reported total employment in the business-services category of 435,000, considerably less than the 761,000 employees that are associated with firms that have some export of business services. Second, the rankings of business-services exports in terms of the number of full-time employees give a distorted picture of their relative importance due to the size differences of firms that record exports in one of the 17 service-export categories. For example, there are approximately the same number of

Table 10
Average annual employment estimates for business-services exports and imports,
Canada, 1983-86

	1983	1984	1985	1986
	(Thousands)			
Exports	144.4	134.1	169.1	195.9
Consulting and other professional services	-	-	-	-
Transportation-related services	122.7	96.3	272.0	315.0
Management and administrative services	91.7	90.9	159.1	98.1
Research and development	89.2	89.3	101.1	168.6
Commissions	136.4	136.4	198.6	206.3
Royalties, patents, and trademarks	x	x	x	-
Films and broadcasting	10.2	30.3	80.6	32.3
Advertising and promotional services	7.5	9.1	108.0	89.5
Insurance	-	-	-	-
Other financial	27.3	22.8	193.5	41.9
Computer services	22.3	23.2	54.8	24.5
Equipment rentals	x	x	x	x
Franchisees and similar rights	110.1	115.0	145.2	88.1
Communications	x	x	x	x
Refining and processing services	66.0	77.6	66.6	65.4
Tooling and other automotive charges	109.5	103.2	131.5	141.1
Other	-	-	-	-
Total	649.7	671.1	802.4	760.7

Imports				
Consulting and other professional services	489.1	390.6	495.7	445.7
Transportation-related services	x	x	x	-
Management and administrative services	661.8	699.3	596.1	559.2
Research and development	179.6	198.9	320.2	227.4
Commissions	180.0	236.5	351.1	323.9
Royalties, patents, and trademarks	763.9	836.0	898.0	810.5
Films and broadcasting	3.7	4.1	1.4	1.5
Advertising and promotional services	246.2	267.0	342.5	342.9
Insurance	257.3	274.9	256.6	275.8
Other financial	2.7	x	x	x
Computer services	254.4	265.4	319.5	330.7
Equipment rentals	260.3	230.8	271.7	285.3
Franchises and similar rights	17.9	9.0	38.9	29.4
Communications	103.5	92.4	x	x
Tooling and other automotive charges	x	77.7	x	x
Other	218.2	224.9	218.9	264.6
Total	1,453.1	1,410.2	1,486.8	1,481.3

Source: Based on unpublished data from Statistics Canada.

employees associated with firms that record some export of services in the royalties, patents, and trademarks category (206,000) as in the consulting and other professional services category (196,000), but this reflects the characteristics of the linked firms, not the relative number of jobs that are export dependent. Because of the questionable usefulness of these data for the purposes of this monograph, no further breakdown of the data is provided.

Selected Financial Information for Canadian Service Trading Firms

By using a methodology similar to that discussed in the section entitled "A Second Approach Focusing on Business-Services Employment" for business-services employment levels, Statistics Canada has recently produced a set of tables that add various types of financial information to firms involved in international trade in business services. As is the case with the employment data, several important points must be understood regarding these data. First, firms that record an international receipt or payment in a business-services category were linked to their microdata files containing firm information on sales, assets, profits, equity, and taxable income. Thus, as long as the firm recorded some positive level of international business, its total level of reported sales, assets, profits, equity, and taxable income is included in the database. Also, in a few instances the "firm" identified was an enterprise, so that the financial (and employment) data matched to it came from a group of corporations that were aggregated to the enterprise level of organization. While it would be desirable to have only the level of (say) profits that is attributable to international transactions, the "all-or-nothing" nature of the linking process precludes this possibility in a fashion similar to that explained for the employment data. Second, the data produced relate to firms which are a subset of all firms that contribute to the published international trade in services data [Statistics Canada, cat. 67-203]. Further, the group of firms for which corresponding financial information is available are not representative of all the international trade in service data, as the firms that can be linked to their own financial microdata are concentrated in certain types of activities. Finally, the data are currently only available for one year (1986).

Despite some of the obvious limitations of this data set, a good deal of financial information is potentially available on firms that have entered into international commerce either as business-services exporters or importers. In keeping with the theme of this monograph, and since it is necessary to be selective regarding the host of tables that can potentially be produced, only two issues will be analysed using these data. The first concerns the relative importance of international activity for service-producing firms (export orientation), and the second concerns the importance of foreign direct investment as a vehicle by which firms enter into international commerce.

Export Orientation of Business-Services Firms

Table 11 shows the total trade and domestic sales volume for Canadian firms that recorded an international receipt in a business-services category, and which could be successfully linked to their corresponding financial data.¹³ Thus, for example, the reported export volume of \$683 million for consulting and other professional services consists of export revenue earned by Canadian firms in a variety of industrial sectors. Specifically, Table 11 shows that the total consists of business-services receipts earned by firms in the following sectors:

primary	\$ 0
mines, quarries and oil wells	1
manufacturing	3
construction	19
transportation and communications	16
wholesale trade	5
retail trade	0
finance, insurance, and real estate	21
community, business, and personal	618
public administration	0
Total	\$683

Obviously, most of consulting and other professional service-export revenue is earned by firms in the community, business, and personal services category (i.e., "pure" consulting firms selling services on their own account – not as a consulting division of a manufacturing or construction firm). Management services are exported partially as pure service exports – \$58 million or 29 per cent of the total – and partially through firms in other sectors of the economy, primarily the manufacturing, finance, insurance, and real estate groupings. Research and development services are exported mostly by manufacturing firms (\$311 million or 62 per cent of the total), with pure research and development exports accounting for \$188 million or 37 per cent of the total. Commission export revenue is earned by firms in the finance, insurance, and real estate sector (41 per cent of the total), manufacturing firms (23 per cent of the total), and firms in the wholesale sector (21 per cent of the total). Revenues from royalties and from the export of advertising and promotional services are earned almost entirely by manufacturing firms. Export revenue for insurance services accrues almost entirely to pure insurance firms. Equipment rental revenue on export sales is earned almost entirely by firms in the transportation and communications sector. Finally, communications services are exported by firms in the transportation and communications sector or firms in the community, business, and personal services grouping. In order to measure the export orientation of firms recording international receipts due to the export of business services, Table 11 shows business-services export revenue

Table 11
International and total revenue earned by business-services firms recording international receipts,
Canada, 1986

	Value of international activity	Value of total activity	International activity as a percentage of total
(Millions of dollars)			
Exports			
Consulting and other professional services	683	21,552	3.17
Transportation-related services	0	0	0.00
Management and administrative services	199	53,307	0.37
Research and development	503	22,440	2.24
Commissions	123	33,556	0.37
Royalties, patents, and trademarks	67	27,542	0.24
Films and broadcasting	0	0	0.00
Advertising and promotional services	25	16,842	0.15
Insurance	207	12,295	1.68
Other financial	0	0	0.00
Computer services	15	7,269	0.21
Equipment rentals	61	4,251	1.43
Franchises and similar rights	1	149	0.67
Communications	368	1,859	19.80
Refining and processing services	x	x	x
Tooling and other automotive charges	x	x	x
Other	96	29,609	0.32
Total	2,592	128,950	2.01

Imports			
Consulting and other professional services	272	91,732	0.30
Transportation-related services	0	0	0.00
Management and administrative services	871	111,297	0.78
Research and development	888	68,555	1.30
Commissions	272	62,417	0.44
Royalties, patents, and trademarks	1,028	148,219	0.69
Films and broadcasting	151	354	42.66
Advertising and promotional services	105	65,088	0.16
Insurance	437	49,186	0.89
Other financial	x	x	x
Computer services	86	56,229	0.15
Equipment rentals	80	71,289	0.11
Franchises and similar rights	18	3,543	0.51
Communications	x	x	x
Tooling and other automotive charges	879	31,799	2.76
Other	229	47,579	0.48
Total	5,760	239,431	2.41

Source: Based on unpublished data from Statistics Canada.

as a percentage of total revenue earned by *all* firms recording business-services export revenue. Thus, when the value of export receipts in the consulting and other professional services category is deflated by the level of total sales for all firms that recorded an export of consulting and other professional services regardless of industrial sector, the relative importance of export sales is very small (i.e., 3.17 per cent). In aggregate, Table 11 shows that business-services export revenue as a percentage of total revenue earned by linked firms averages only 2 per cent for the 17 categories of business-services exports.

With respect to imports of business services, Table 11 shows that Canadian firms who could be successfully linked to their financial data imported \$5,760 million¹⁴ in business services in 1986. Table 12 shows the distribution of business-services imports according to the industrial classification of the importing firm. In general, firms in the manufacturing sector dominate most imports of business services, with the notable exception of insurance, which is primarily imported by firms in the community, business, and personal service grouping.

Table 13 provides a more accurate measure of the degree of export orientation by including only the export and total revenue earned by pure business-services exporting firms (i.e., it excludes information on firms most likely exporting business services as a subactivity to their main line of business). Obviously, business-services exports such as commissions, management and administrative services, royalties and franchises cannot be assigned to a pure service-export category, and hence are removed from the database. In aggregate, business-services export revenue averages 12.8 per cent of the total revenue earned by firms deemed to be pure business-services producers. Firms in the insurance and communications categories are particularly "open" in the sense that 36.7 and 19.8 per cent of their respective total industry revenues are earned on export sales.

Levels of Foreign Direct Investment

In the section entitled "How Are Service Outputs Traded?", it was made clear that the production and consumption of business services may be "globalized" either through foreign direct investment by business-services firms or by the direct import or export of services across national boundaries. Table 14 shows that Canadian firms that both recorded business-services exports in 1986 and could be linked to their microdata file on foreign direct investment exported \$1.122 million of business services in 1986. These same firms reported direct investment in the United States of \$16.6 million and \$8.9 million in other foreign countries. These data are difficult to interpret because, as shown in Table 12, many Canadian firms in a variety of sectors export one or more categories of business services. As such, the total of their

foreign direct investment is included in the database and reported in Table 14. Following the procedure used in Table 13, somewhat more precision can be obtained for some of the business-services categories by identifying pure business-services exports (e.g., consulting and other professional services exported by firms in the community, business, and personal services grouping only). When this is done for the feasible business-services categories, only the consulting and insurance categories have sufficient data remaining to allow for publication.

Unfortunately, given the paucity of data, not much may be concluded regarding the vehicle by which different industries enter into international commerce. Successfully linked firms in the consulting and other professional category, which are most likely pure consulting service producers (i.e., not a division of a manufacturing firm), exported \$523 million worth of services in 1986 and have foreign direct investment in the United States totalling \$129 million and \$68 million in other foreign countries. In comparison, the linked insurance firms reported \$80 million in export sales in 1986, but a total of \$673 million in direct investment in the United States and \$380 million in other foreign countries. Obviously, globalization of insurance requires a much higher degree of foreign direct investment than does the consulting and other professional services category, but few, if any, other conclusions can be drawn from these data.

Summary and Emerging Policy Conclusions

The conceptual and empirical neglect of the international dimension of service-sector transactions ended in September 1986 when the trade ministers of 74 countries agreed to launch the Uruguay Round of multilateral trade negotiations on goods and services. This important decision to begin negotiations on trade in services involved difficult discussions on complex issues and, finally, a delicate procedural compromise between the interests of the United States and the European Economic Community on one side, and India, Brazil, and other developing countries on the other. As a result, the negotiations on services are being conducted as a separate process outside of the usual General Agreement on Tariffs and Trade (GATT) framework used historically to negotiate issues relevant to trade of goods.

Since the decision to launch negotiations was taken in 1988, the United States has been a major participant, putting forward its so-called "services proposal" to GATT ministers in October 1988 and, in October 1989, a draft for a General Agreement on Trade in Services (GATS). The draft GATS by the United States is the first to be put into legal language and defines the objectives, coverage, rules, exceptions, and enforcement mechanisms for an

Tooling and other automotive charges	0	0	x	0	0	x	0	0	0	0	x
Other	0	x	21	x	12	8	0	0	1	50	0
Total	x	108	610	27	376	117	3	308	1,041	x	2,592
Imports											
Consulting and other professional services	0	13	47	19	5	5	1	14	155	x	272
Transportation-related services	0	0	0	0	0	0	0	0	0	0	0
Management and administrative services	x	62	627	5	20	53	19	45	40	0	871
Research and development	x	68	790	x	0	7	0	x	20	0	888
Commissions	x	11	188	x	2	29	2	37	2	0	272
Royalties, patents, and trademarks	0	10	612	x	15	77	12	11	289	0	1,028
Films and broadcasting	0	0	0	0	x	x	x	0	128	0	151
Advertising and promotional services	x	x	63	x	1	28	0	3	9	0	105
Insurance	0	15	35	1	22	7	0	355	2	0	437
Other financial	0	0	0	0	0	0	0	x	0	0	x
Computer services	x	7	36	x	8	20	2	6	6	0	86
Equipment rentals	0	18	29	7	16	2	0	0	7	0	80
Franchisees and similar rights	0	x	2	0	x	x	x	x	6	0	18
Communications	0	0	0	0	x	0	0	0	0	0	x
Tooling and other automotive charges	0	0	879	0	0	0	0	0	0	0	0
Other	x	71	85	3	30	21	x	6	22	0	879
Total	5	276	3,393	36	501	254	62	533	685	x	5,760

Source Based on unpublished data from Statistics Canada.

Table 13
International and total revenue earned by firms deemed to be pure business-services producers, Canada, 1986

	Value of international activity	Value of total activity	International activity as a percentage of total
(Millions of dollars)			
Exports	618	3,907	15.82
Consulting and other professional services	0	0	0.00
Transportation-related services	...	...	...
Management and administrative services	188	3,841	4.89
Research and development	...	...	...
Commissions	...	...	...
Royalties, patents, and trademarks	...	...	...
Films and broadcasting	0	0	0.00
Advertising and promotional services	x	x	x
Insurance	189	515	36.70
Other financial	0	0	0.00
Computer services	5	69	7.25
Equipment rentals	50	927	5.39
Franchises and similar rights	...	...	...
Communications	368	1,859	19.80
Refining and processing services	x	x	x
Tooling and other automotive charges	x	x	x
Other	...	...	...
Total	1,418	11,118	12.75

Source Based on unpublished data from Statistics Canada.

agreement covering more than 100 service sectors [The Economist 1989]. Canada has also been a major participant on several fronts. In preparation for the exchange of information on services initiated under the 1982 GATT Work Program, Canada established an interdepartmental task force on trade in services under the International Trade Component of the (then) Department of Industry, Trade and Commerce. Since 1986, there has been an outpouring of domestic and international service-sector research under the umbrella of the Service Industries Study Program (SISP) of the Department of Industry, Science and Technology.

The issue of trade in services has entered into the policy agenda of many countries for a host of different reasons. However, the rapid expansion of domestic service industries in terms of employment and output, combined with deregulation initiatives and technological advances in communications technology, have forced most of the world's major trading nations to realize that major service industries now operate in a tradable, or potentially tradable, environment.

The costs of being institutionally ignorant of the rapidly changing trading environment can potentially be very high. Table 1 shows that service exports account for one quarter of the total exports for major OECD countries, but the same data set may also be used to show that, over the period 1974-84, the value of service-sector exports and imports grew at a more rapid rate than merchandise trade for almost all major OECD countries [Australian Bureau of Industry Economics 1988, 54]. Thus, if service-sector trade in the immediate future parallels the explosive growth in merchandise trade which took place after the GATT was signed in 1947, the implications for countries' balance of payments and domestic employment levels will be very significant.

The relative importance of Canada's service-sector exports, when compared to the level of merchandise exports, depends on whether a narrow or wide definition of trade in services is used. Service-sector outputs enter into international commerce through four basic mechanisms, three of which apply to direct service exports and the fourth which applies to indirect trade in services. Service exports, using the narrow definition covering services exported across national boundaries by means of a communications network, by the temporary movement of demanders, or by the temporary movement of suppliers, amounted to \$18.1 billion in 1987. This total represented 14.4 per cent of the value of merchandise trade in the same year and is significantly less than the 21-per-cent figure achieved in the early 1960s. While there have been some short-term oscillations around the downward trend line, these data show that the declining relative importance of service in comparison to merchandise exports proceeded more or less smoothly from 1961 to 1987. If a wider definition of service exports is used, it is necessary to estimate the level of services embodied in physical goods and exported indirectly through the merchandise

Table 14
Receipts, payments, and foreign direct investment of exporting or importing business-services firms,
Canada, 1986

	Value of international activity	Direct investment in:	
		United States	Other foreign countries
		(Millions of dollars)	
Exports			
Consulting and other professional services	547	2,746	2,040
Transportation-related services	0	0	0
Management and administrative services	144	7,371	6,331
Research and development	42	378	401
Commissions	35	6,511	2,462
Royalties, patents, and trademarks	33	7,417	2,873
Films and broadcasting	0	0	0
Advertising and promotional services	9	139	391
Insurance	89	1,452	457
Other financial	0	0	0
Computer services	5	1,003	156
Equipment rentals	23	3	18
Franchises and similar rights	x	x	x
Communications	x	x	x
Refining and processing services	x	x	x
Tooling and other automotive charges	x	x	x
Other	24	959	174
Total	1,122	16,631	8,971

Imports				
Consulting and other professional services	182	4,395	3,073	
Transportation-related services	0	0	0	
Management and administrative services	202	4,683	6,611	
Research and development	632	3,483	5,456	
Commissions	147	9,230	6,005	
Royalties, patents, and trademarks	167	10,040	7,559	
Films and broadcasting	x	x	x	
Advertising and promotional services	19	8,258	4,109	
Insurance	67	7,155	2,949	
Other financial	0	0	0	
Computer services	12	2,462	2,508	
Equipment rentals	34	1,491	924	
Franchisees and similar rights	5	314	308	
Communications	0	0	0	
Tooling and other automotive charges	x	x	x	
Other	136	2,252	2,284	
Total	2,022	16,302	10,780	

Source: Based on unpublished data from Statistics Canada.

account of the balance of payments. Using input-output methodology, indirect service exports are estimated to be over twice as large as direct service exports (i.e., \$27.7 billion in 1987). Thus, according to the wider definition, service-sector exports represent 36 per cent of the reported value of merchandise trade in 1987. Both the narrow and wide definitions exclude exports of banking services that cannot be estimated with an acceptable degree of precision.

The aggregate results using both the narrow and wide definitions tend to mask several issues that are important in terms of Canada's emerging service-trade policy agenda. A clearer historical picture of Canada's direct service exports is obtained by excluding merchandise trade under the Canada/U.S. Auto Pact. Service exports as a percentage of nonauto-pact merchandise exports show a gradual downward drift until 1980 but, most importantly, a strongly rising trend for the period 1980-87. The rising relative importance of service exports after 1980 is explained by the performance of the travel and especially business-services subsectors, both of which display a consistent upward trend which more than counterbalances the downward trend which exists in the freight and shipping subaccount. Business services that are especially important in terms of their ability to generate export revenue (i.e., their existing absolute size and percentage rate of growth) are communications, consulting and other professional services, insurance, and research and development.

When Canada's direct service-export performance is compared to the set of 16 major OECD countries, a rather negative picture emerges. Driven by deficits generated mainly on the business services and travel subaccounts, Canada has experienced consistent and rising overall service deficits since 1961. By 1987, the \$7.1 billion deficit created on international service-sector transactions significantly eroded the \$10.3 billion surplus created on merchandise account. Furthermore, Canada is one of only six OECD countries reporting a deficit on service-sector transactions. Its reported deficit in 1984 is the third largest of the major OECD countries, behind Japan and Germany. In terms of service-export propensity (i.e., the proportion of service exports in total exports), Canada ranks last of the major OECD countries. In terms of service-industry employment levels, it may be concluded that relatively few Canadian jobs currently depend directly on the export of services. It is estimated that 250,000 service-industry jobs, or 3.6 per cent of the total service-sector employment level in 1988, are directly dependent on service exports. Undoubtedly, the number of service jobs that are export-sensitive in the sense that they depend on exports that enter into international commerce indirectly through the merchandise account is much higher, but the number cannot be accurately estimated without access to detailed input-output information. At present, the obvious importance of the service sector to domestic output and employment levels does not carry over to international commerce, although

the deregulation initiatives of the 1980s and the ongoing advances in communications technology may presage a significant expansion of the volume of many specific traded services and the associated employment opportunities.

Given the existing structure of Canada's export and import pattern – especially the relatively low level of service-sector export propensity in comparison to other major OECD countries – there is reason to hope that the growing globalization of economic activity bodes well for future Canadian economic performance. However, global economic forces giving rise to the expanded scope for international trade in services are also creating similar opportunities for service exporters in the United States, Europe, Japan, and a host of developing countries. Based on the historical record of Canada's service-sector trade, several tentative conclusions regarding the future evolution of traded services may be drawn.

Direct trade in services, comprising both imports and exports, are likely to remain considerably less important than trade on merchandise account. Services trade is an important component of Canada's overall trade picture, but it is not realistic to anticipate that continuing progress in travel and communications technology, and the lowering of barriers to market access, will usher in a period in which the scope for Canada's international trade in services expands drastically. Market opportunities for trade in services will continue to arrive, probably at a more rapid rate, and Canadian industry must be flexible enough to make the necessary adjustments as either exporters or import competitors. However, the notion that services trade alone can expand sufficiently to offset the depressed outlook for commodity trade is not supported by the historical record. For policy purposes related to Canada's external balance, it is more productive to stress the interdependence of service and merchandise trade.

While service-sector trade is likely to have an important but not dramatic role to play in terms of Canada's future external balances, the concentration on overall service-sector trade hides important developments which are taking place on the three service subaccounts. International trade in transportation and especially tourism services will undoubtedly remain important to Canada's overall and regional economic performance, and microeconomic policy must be used to maintain and enhance the competitive position of Canadian firms in these industries.¹⁵ However, it is almost certainly the expansion of the traded business-services sector that will be the main international service "story" of the 1990s.

Receipts from the export of business services are dominated by arm's-length transactions (i.e., Canadian-controlled firms exporting to nonaffiliated buyers), often in countries outside the United States or the European Economic Community. Imports of business services are more closely tied to the United

States and often involve U.S.-controlled establishments buying services from affiliated head offices, often in the manufacturing sector. Given the structural characteristics of Canada's business-services exports and imports, two implications follow. First, the provisions in the Canada/U.S. Free-Trade Agreement on covered services and temporary entry for business persons represent an important breakthrough for Canadian service firms. Given the existing low level of business-services exports to the United States relative to the volume of manufactured exports, it would appear to be in Canada's long-term interests to ensure that the provisions of these two chapters are fully adhered to and enhanced as experience with the agreement deepens. Second, Canada's interests with respect to multilateral efforts to reduce barriers to international service competition are less clear, but the experience of some Canadian business-services sectors such as consulting and communication services suggests that Canadian firms can compete in global markets. Thus Canada's ability to trade business services with other countries to the mutual advantage of both will depend on domestic microeconomic policy to ensure that Canadian firms are internationally competitive, and on Canada's full participation in multilateral efforts to ensure that barriers to international service competition are negotiated away.

Appendix A

The travel account includes receipts and payments arising from travel between Canada and the rest of the world. Travellers include persons travelling for pleasure, holiday, vacation, health, business, or study, and covered expenditures include both transportation fares and expenses incidental to the journey (e.g., hotel and food expenditures).

The freight and shipping account measures receipts and payments related to the transportation of merchandise by water, highway, air, or pipeline. Covered receipts include fares paid to Canadian-domiciled carriers transporting merchandise exports both inland and beyond the borders of Canada; receipts from vessel charters; Canadian-operated carriers transporting merchandise between foreign countries; and port expenditures in Canada by foreign shipping companies. Payments on the freight and shipping account cover transportation fees paid to foreign-domiciled carriers transporting imports to Canada (includes inland "freight" charges in other countries); the movement of Canadian commodities (e.g., oil and natural gas) in transit through the United States; port expenditures abroad by Canadian shipping companies; and foreign vessel charters. International expenditures by airlines are currently included under the transportation-related services subcategory of the business-services grouping.

The business-services grouping consists of 17 subcategories as follows:

- Consulting and other professional services consisting of such services as engineering, architecture, law, patent agents, accounting, marketing, planning, taxation, finance, drilling, and development of natural resources.
- Transportation-related services covers expenditures by foreign airlines operating in Canada (receipts) and similar expenditures by Canadian-domiciled airlines abroad. Also included are such items as truck licence fees, settlements from pooled routes, and fees for international organizations which regulate international transport.
- Management and administrative services includes charges for managerial and administrative services, plus trust company fees and expenses in Canada for Canadian-incorporated companies with operations outside Canada.
- Research and development covers charges related to investigations for scientific or commercial purposes.
- Commissions includes commissions earned by wholesale merchants, agents, and brokers on merchandise trade, plus commissions earned by manufacturers' sales branches and other types of commercial commissions. Does not include fees and commissions on transactions in securities.

- Royalties, patents, and trademarks covers changes related to exclusive resource rights, rights to produce and sell commodities with one or more unique features, the use of an original literary, artistic, dramatic, or musical work, and any distinctive commercial work secured by legal registration.
- Films and broadcasting includes payments for the distribution of feature films, and services purchased or sold by private and public radio and television studios.
- Advertising and promotional services includes advertising in newspapers, journals, radio, television, and other media, participation in trade fairs, and the costs of sales promotion.
- Insurance covers insurance and/or reinsurance premium and settlement income received from non-residents, and premiums and settlements paid directly to non-resident insurers for all types of risks. Also included are the international transactions of insurance brokers.
- Other financial services covers fees and commissions earned on the trade in outstanding securities with non-residents, both for receipts and payments. Prior to 1986, this subcategory covered payments only; primarily payments on new Canadian securities issued abroad. Recall that banking services are not available separately from other banking transactions and are currently included with investment-income transactions in the balance of payments.
- Computer services includes advisory services, use of computer facilities, purchase and development of software, systems design, installation, testing, debugging, ongoing maintenance, documentation changes, and training. Prior to 1981, these transactions were reported under "other services."
- Equipment rentals for the oil industry covers rentals of drilling rigs and supply vessels and, for all other industries, covers rentals of machinery, tools, motor vehicles, aircraft, leased railway equipment, computers, and other equipment.
- Franchises and similar rights covers contractual privileges granted by an individual or corporation permitting the sale of a product, use of a trade name, or provision of a service within a specified territory and/or in a specified manner.
- Communications includes telephone, telegraph, telex, data transmission, courier, and postal transactions.
- Refining and processing services includes fees received from non-residents for refining of metals in Canada. Payments data are not available.

- Tooling and other automotive charges covers fees paid or received by automotive companies for charges such as retooling, warranty, and other charges.
- Other business services comprises various miscellaneous services which could not be classified; an estimate to cover underreporting in the survey and operations too small to survey; and withholding taxes.

The category for government transactions covers international transactions arising from provincial and federal government activities, both military and diplomatic, not covered elsewhere in the balance of payments. The transactions of diplomatic missions include capital as well as current outlays.

Finally, the other services category covers wages, strike receipts, and dues payable to international unions. Also, expenditures by Canadian students abroad and foreign students in Canada; recreational- and cultural-related transactions; and the labour earnings of commuters and migrant workers.

Table A-1
Service and merchandise exports and imports, Canada, 1961-87

	Service exports (Millions of dollars)	Merchandise exports	Service exports as a percentage of merchandise exports	Service imports (Millions of dollars)	Merchandise imports	Service imports as a percentage of merchandise imports	Service balance (Millions of dollars)
1961	1,277	5,858	21.8	1,733	5,716	30.3	-456
1962	1,396	6,368	21.9	1,772	6,203	28.6	-376
1963	1,521	7,074	21.5	1,918	6,580	27.6	-297
1964	1,688	8,232	20.5	2,029	7,537	26.9	-341
1965	1,839	8,743	21.0	2,233	8,600	26.0	-394
1966	2,112	10,325	20.5	2,525	10,059	25.1	-413
1967	2,761	11,288	24.5	2,736	10,725	25.5	25
1968	2,460	13,670	18.0	2,990	12,196	24.5	-530
1969	2,962	14,982	19.1	3,633	14,071	25.8	-771
1970	3,258	16,820	19.4	3,960	13,869	28.6	-702
1971	3,389	17,783	19.1	4,216	15,314	27.5	-827
1972	3,514	20,223	17.4	4,507	18,272	24.7	-993
1973	4,118	25,649	16.1	5,297	22,726	23.3	-1,179
1974	5,068	32,738	15.5	6,461	30,904	20.9	-1,393
1975	5,339	33,616	15.9	7,402	33,961	21.8	-2,063
1976	6,085	38,167	15.9	8,671	36,608	23.7	-2,586
1977	6,687	44,495	15.0	9,728	41,523	23.4	-3,041
1978	7,792	53,360	14.6	11,005	49,048	22.4	-3,213
1979	9,493	65,581	14.5	12,120	61,158	19.8	-2,627
1980	10,898	76,681	14.2	14,028	67,904	20.7	-3,130

1981	12,447	84,432	14.7	15,861	77,140	20.6	-3,414
1982	12,258	84,393	14.5	15,858	66,739	23.8	-3,600
1983	12,889	90,556	14.2	16,735	73,098	22.9	-3,846
1984	14,705	111,730	13.2	19,139	91,493	20.9	-4,434
1985	15,909	119,566	13.3	20,734	102,641	20.2	-4,825
1986	17,569	120,593	14.6	22,800	110,205	20.7	-5,231
1987	18,089	125,765	14.4	25,134	115,424	21.8	-7,045

Source Based on data from Statistics Canada, cat. 67-001.

Table A-2

Distribution of disaggregated service exports and imports, Canada, 1961-87

	Percentage of total service exports					Percentage of total service imports				
	Travel	Freight and shipping	Business services	Government transactions	Other services	Travel	Freight and shipping	Business services	Government transactions	Other services
	(Per cent)									
1961	37.7	38.1	14.3	7.0	2.7	37.0	32.8	22.3	7.3	0.6
1962	40.3	36.5	14.5	6.2	2.6	34.1	33.5	23.6	8.1	0.6
1963	40.0	37.1	13.9	6.4	2.5	32.2	35.6	22.4	8.0	1.8
1964	39.2	38.1	13.7	6.6	2.3	35.1	33.5	22.0	7.7	1.7
1965	40.6	36.4	13.6	6.6	2.8	35.6	34.1	21.4	7.3	1.7
1966	39.8	35.9	13.3	8.0	3.0	35.6	32.6	22.6	7.3	1.8
1967	47.7	30.1	13.5	6.3	2.4	32.7	31.5	26.6	7.3	1.9
1968	38.7	36.1	15.7	6.2	3.3	32.8	31.1	26.6	7.4	2.1
1969	36.6	32.7	20.0	6.4	4.3	34.7	27.4	30.0	5.9	2.0
1970	37.0	34.6	18.6	6.3	3.6	35.9	27.9	28.7	5.6	1.9
1971	36.8	34.9	19.1	5.2	4.0	34.3	28.3	30.5	5.0	1.9
1972	35.0	35.3	20.5	5.3	3.9	32.5	29.2	31.3	5.2	1.9
1973	35.1	36.3	20.4	4.8	3.4	32.9	29.5	30.6	5.2	1.9
1974	33.4	35.8	22.6	5.1	3.2	30.6	31.5	30.5	5.2	2.2
1975	34.0	32.1	24.7	5.7	3.5	34.3	29.0	29.3	5.2	2.1
1976	31.7	34.2	25.3	5.1	3.7	36.0	25.7	30.6	5.6	2.2
1977	30.3	35.5	25.8	5.4	3.1	37.7	24.6	29.4	6.3	2.0
1978	30.5	34.8	26.4	5.1	3.1	37.1	23.5	30.9	6.7	1.8
1979	30.4	36.5	26.2	4.2	2.7	32.6	26.1	32.7	6.7	1.9
1980	30.7	36.3	26.5	3.8	2.6	32.6	24.6	34.0	7.1	1.8

1981	30.2	34.5	29.2	3.6	2.6	30.7	24.3	37.2	6.0	1.7
1982	30.4	33.8	29.0	4.0	2.8	31.6	21.3	38.4	6.9	1.8
1983	29.8	31.8	31.4	4.3	2.7	36.1	19.5	36.1	6.5	1.8
1984	30.0	32.3	31.1	3.8	2.9	34.2	22.4	35.6	6.1	1.7
1985	31.5	28.9	33.3	3.5	2.8	34.3	21.2	37.1	5.7	1.6
1986	36.0	25.4	32.3	3.6	2.6	32.9	19.7	40.7	5.2	1.6
1987	34.8	26.0	33.0	3.5	2.6	35.1	19.1	39.5	4.8	1.5

Source: Based on data from Statistics Canada, cat. 67-203.

Table A-3
Disaggregated service exports and imports as a percentage of merchandise exports and imports,
Canada, 1961-87

	Service exports				Service imports					
	Travel	Freight and shipping	Business services	Government transactions	Other services	Travel	Freight and shipping	Business services	Government transactions	Other services
1961	8.2	8.3	3.1	1.5	0.6	11.2	9.9	6.8	2.2	0.2
1962	8.8	8.0	3.2	1.3	0.6	9.8	9.6	6.8	2.3	0.2
1963	8.6	8.0	3.0	1.4	0.5	8.9	9.8	6.2	2.2	0.5
1964	8.0	7.8	2.8	1.4	0.5	9.4	9.0	5.9	2.1	0.5
1965	8.5	7.7	2.9	1.4	0.6	9.3	8.8	5.5	1.9	0.4
1966	8.1	7.3	2.7	1.6	0.6	8.9	8.2	5.7	1.8	0.5
1967	11.7	7.4	3.3	1.5	0.6	8.3	8.0	6.8	1.9	0.5
1968	7.0	6.5	2.8	1.1	0.6	8.1	7.6	6.5	1.8	0.5
1969	7.0	6.2	3.8	1.2	0.8	9.0	7.1	7.7	1.5	0.5
1970	7.2	6.7	3.6	1.2	0.7	10.3	8.0	8.2	1.6	0.5
1971	7.0	6.7	3.6	1.0	0.8	9.5	7.8	8.4	1.4	0.5
1972	6.1	6.1	3.6	0.9	0.7	8.0	7.2	7.7	1.3	0.5
1973	5.6	5.8	3.3	0.8	0.5	7.7	6.9	7.1	1.2	0.4
1974	5.2	5.5	3.5	0.8	0.5	6.4	6.6	6.4	1.1	0.5
1975	5.4	5.1	3.9	0.9	0.6	7.5	6.3	6.4	1.1	0.5
1976	5.1	5.5	4.0	0.8	0.6	8.5	6.1	7.2	1.3	0.5
1977	4.6	5.3	3.9	0.8	0.5	8.8	5.8	6.9	1.5	0.5
1978	4.5	5.1	3.9	0.7	0.5	8.3	5.3	6.9	1.5	0.4
1979	4.4	5.3	3.8	0.6	0.4	6.5	5.2	6.5	1.3	0.4
1980	4.4	5.2	3.8	0.5	0.4	6.7	5.1	7.0	1.5	0.4

1981	4.5	5.1	4.3	0.5	0.4	6.3	5.0	7.7	1.2	0.4
1982	4.4	4.9	4.2	0.6	0.4	7.5	5.1	9.1	1.6	0.4
1983	4.2	4.5	4.5	0.6	0.4	8.3	4.5	8.3	1.5	0.4
1984	4.0	4.2	4.1	0.5	0.4	7.2	4.7	7.4	1.3	0.4
1985	4.2	3.9	4.4	0.5	0.4	6.9	4.3	7.5	1.2	0.3
1986	5.3	3.7	4.7	0.5	0.4	6.8	4.1	8.4	1.1	0.3
1987	5.0	3.7	4.7	0.5	0.4	7.6	4.2	8.6	1.0	0.3

Source Based on data from Statistics Canada, cat. 67-001 and 67-203.

Table A-4
Service and nonauto-pact merchandise exports and imports, Canada, 1961-87

	Service exports	Merchandise exports excluding auto pact	Service exports as a percentage of net merchandise exports	Service imports	Merchandise imports excluding auto pact	Service imports as a percentage of net merchandise imports	Service balance
	(Millions of dollars)	(Millions of dollars)		(Millions of dollars)	(Millions of dollars)		(Millions of dollars)
1961	1,277	5,858	21.8	1,733	5,716	30.3	-456
1962	1,396	6,388	21.9	1,772	6,203	23.6	-376
1963	1,521	7,074	21.5	1,818	6,580	27.6	-297
1964	1,688	8,232	20.5	2,029	7,537	26.9	-341
1965	1,839	8,387	21.9	2,233	7,476	29.9	-334
1966	2,112	9,313	22.7	2,525	8,471	29.8	-413
1967	2,761	9,549	28.9	2,736	8,563	32.0	25
1968	2,460	10,924	22.5	2,990	9,195	32.5	-530
1969	2,862	11,468	25.0	3,633	10,525	34.5	-771
1970	3,258	13,321	24.5	3,960	10,617	37.3	-702
1971	3,389	13,612	24.9	4,216	11,204	37.6	-827
1972	3,514	15,505	22.7	4,507	13,338	33.8	-993
1973	4,118	20,234	20.4	5,297	16,645	31.8	-1,179
1974	5,068	27,021	18.8	6,461	23,780	27.2	-1,393
1975	5,339	27,184	19.6	7,402	25,724	28.8	-2,063
1976	6,085	29,942	20.3	8,671	27,168	31.9	-2,586
1977	6,687	34,071	19.6	9,728	29,947	32.5	-3,041
1978	7,792	40,820	19.1	11,005	35,662	30.9	-3,213
1979	9,493	53,681	17.7	12,120	45,997	26.3	-2,627
1980	10,898	65,757	16.6	14,028	54,295	25.8	-3,130

1981	12,447	71,248	17.5	15,861	60,938	26.0	-3,414
1982	12,258	67,874	18.1	15,858	51,615	30.7	-3,600
1983	12,889	60,329	18.6	16,735	53,900	31.0	-3,846
1984	14,705	82,441	17.8	19,139	65,357	29.3	-4,434
1985	15,909	86,504	18.4	20,734	71,140	29.1	-4,825
1986	17,569	84,380	20.8	22,800	76,546	29.7	-5,231
1987	18,089	93,691	19.3	25,134	82,210	30.6	-7,045

Source: Based on data from Statistics Canada, cat. 67-001.

Notes

- 1 The subcategories are: transportation; communications; utilities; wholesale trade; retail trade; finance, insurance, and real estate (FIRE); nonprofit organizations; consumer services; producer services; and public administration.
- 2 For example, Fuchs [1968], Gershuny [1978], Stanback et al. [1981], Gershuny and Miles [1983]. An excellent summary and original contribution to the definitional question is provided by Melvin [1989].
- 3 Coal mining, commonly considered to be part of the primary sector and hence a goods output, may, by some definitions, be considered to be a service industry in the sense that nature has produced the coal, and human effort simply adds a transportation service by moving the coal from below ground to locations where it can be consumed.
- 4 A fifth method by which services enter into foreign markets involves commercial presence and establishment abroad (i.e., an investment, not a trade vehicle).
- 5 The United Nations Conference on Trade and Development [UNCTAD 1986, 80] makes a similar point in a different context by noting that

the attempts to introduce services conceptually into a trade policy framework have not succeeded in delineating trade from foreign investments issues; efforts to equate trade concepts such as "access to markets" with investment concepts such as "establishment" have further obscured the debate.
- 6 The reason for this large increase in the ratio of service to merchandise exports will be explained with disaggregated data.
- 7 See Fuss and Waverman [1987].
- 8 Recall that St. Hilaire and Whalley [1986] estimate that approximately one fifth of banking foreign-source income is due to exports of banking services.
- 9 The Office of Technology Assessment [1986] has re-estimated U.S. service exports, excluding banking, at \$69 to \$91 billion in comparison to the official federal government figure for 1984 of \$43.8 billion. Given that merchandise exports in 1984 came to \$220 billion, this implies that the ratio of service to merchandise export rises from the officially reported ratio of approximately 20-36 per cent when the midpoint of re-estimates is used.

- 10 Not service exports as a percentage of merchandise exports, as displayed in Chart 1.
- 11 Merchanting is defined to occur "when goods are acquired and relinquished again without crossing the frontier of the economy in which their temporary owner is a resident. In this case, the temporary owner is considered to be engaging in a merchanting transaction rather than in an import and re-export of goods" [OECD 1987].
- 12 Unlinked firms are typically holding companies that, because they do not have any production or employment, are not included in the employment database.
- 13 This table shows that successfully linked Canadian firms generated \$2,592 million worth of business-services exports and total sales of \$129 million. In comparison, total reported receipts from the export of business services in 1986 were \$5,678 million. Thus linked firms account for 43 per cent of the total in terms of the proportion of business-services export revenue.
- 14 Total imports of business services in 1986 were \$9,277 million, thus 62 per cent of the total has been captured in the linked database.
- 15 For an analysis of Canadian trade in transportation services, see McRae [1989].

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